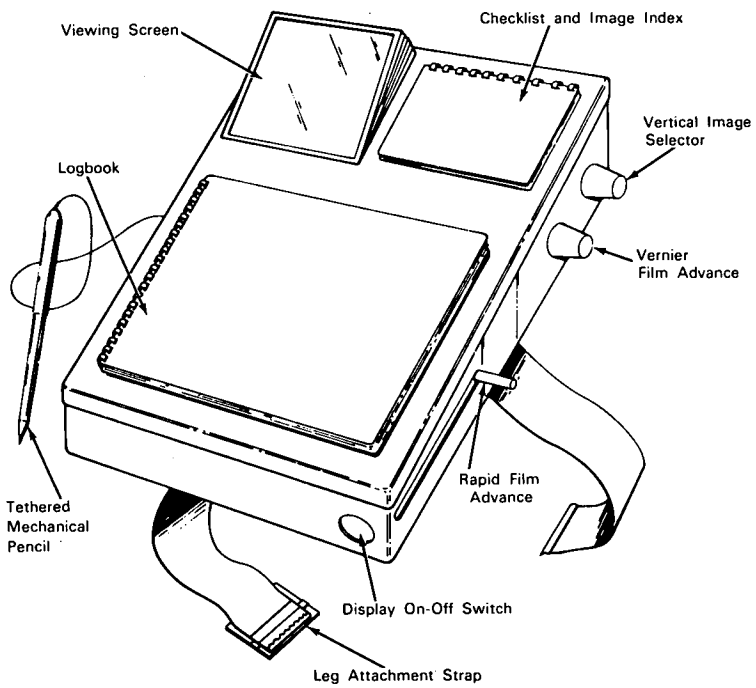
NASA TECH BRIEF

Library of Documents Compressed into Lap-Held Display Kit



The problem: The manuals, maps, star charts, emergency plans, etc. required in duplicate for the crew of the Apollo mission amount to 12,000 printed pages with a total weight of 79 pounds per kit. This involves a total weight of 158 pounds and a bulk of material, both unacceptable considering mission objectives.

The solution: A package using microfilm in conjunction with a viewing screen to present the 12,000 printed pages rapidly. The package weighs three pounds and is about the size of a metropolitan telephone directory.

How it's done: A package, called a Flight Kit Assembly, was designed to contain and provide readout of some 12,000 pages of information related to the navigation, operation, and maintenance of the Apollo flight spacecraft. The assembly consists of a locking case with a hinged cover that serves as a lap-held writing surface. The cover includes a 4- by 5-inch viewing screen in the upper left corner. The 12,000 pages of data are on microfilm that is moved by external manual controls. Using a checklist and image index mounted on the upper right corner of the cover, the user can view any page selected in a maximum of

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15 seconds. A logbook and mechanical pencil attached to the lower portion of the cover provides a means of recording observed phenomena during flight. A manual switch is used to display selected data on the viewing screen. An elastic strap attached to the bottom of the case holds the assembly firmly in place on the user's lap.

Notes:

1. This kit could be adapted for use by survey crews requiring large numbers of maps or on construction projects involving numerous blueprints.
2. Inquiries concerning this innovation may be directed to:

   Technology Utilization Officer
   Manned Spacecraft Center
   P.O. Box 1537
   Houston, Texas, 77001
   Reference: B65-10030

Patent status: NASA encourages commercial use of this innovation. No patent action is contemplated.

Source: National Cash Register Co., under subcontract to Manned Spacecraft Center (MSC-125)